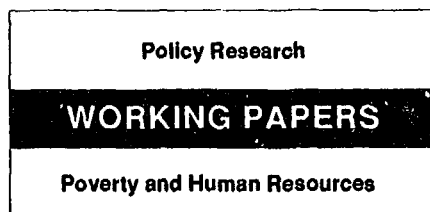


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Is Poverty Increasing in the Developing World?

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and
Martin Ravallion

New data suggest that the aggregate number of poor is increasing at roughly the rate of population growth. Poverty measures are highest in either South Asia or Sub-Saharan Africa, depending on the poverty line used. The only regions with falling poverty measures are South and East Asia.

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Policy Research

WORKING PAPERS

Poverty and Human Resources

WPS 1146

This paper — a product of the Poverty and Human Resources Division, Policy Research Department — is part of a larger effort in the department to monitor progress in reducing poverty in the developing world. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Patricia Cook, room S13-064, extension 33902 (June 1993, 41 pages).

Chen, Datt, and Ravallion assess the developing world's progress in reducing absolute-consumption poverty during 1981-91, using new data on the distribution of household consumption or income per capita for 40 countries (at two points in time for 18 of the countries). They apply dominance tests to the distributions after adjusting to purchasing-power parity.

They find that the incidence of aggregate poverty changed little. The number of poor increased at the rate of population growth. The region with the greatest aggregate poverty is either South Asia or Sub-Saharan Africa, depending on the poverty line used.

The experience was diverse across regions and countries. The only regions with falling poverty measures are South and East Asia.

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Is Poverty Increasing in the Developing World?

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1 Introduction

The question in our title is surprisingly difficult to address convincingly from existing data sources, not least because little effort has gone into compiling and analyzing the available distributional data on a reasonably comparable basis.¹ Yet the need to do so is evident, both to help monitor progress in reducing poverty, and as a first step toward understanding the causes and effects of changing distribution.

This paper offers an assessment of progress in reducing aggregate poverty during the 1980s using a consistent compilation of recent distributional data, done for this purpose. This is of interest in its own right - particularly given that the 1980s have been a difficult decade for much of the developing world - but it also offers hope of laying a reasonably firm foundation for future poverty monitoring.

While estimates of various poverty measures are available from numerous studies at the country level, we do not use them here. The main difference between our estimates and those available in the literature is undoubtedly our attempt to use the same real poverty line across countries (though allowing that line to span a wide range). Past work at the country level has naturally used poverty lines appropriate to each country. There is, however, a marked tendency for the real value of local poverty lines to increase with the average income of a country (Ravallion et al., 1991). This fact clouds attempts to compare and aggregate across countries using the poverty data available in standard (secondary) sources. Why should one treat two individuals with an identical standard of living (by some agreed measure) differently according to where they happen to live? Here we turn instead to the primary data sources and re-estimate all poverty measures on a consistent basis.

However, the comparability of distributional data across countries and over time remains an issue. Household-survey methods differ, and there are difficulties in comparing monetary units over time and space. We do not pretend to solve all these problems here, though improvements in data and methods allow us to address some. For example, the UN's International Comparisons Project has greatly improved our knowledge about differences in the consumption purchasing-power of incomes denominated in local currencies. Also, there has been substantial improvement and standardization in household-survey methodologies over the last decade or so; the comparability problems that have plagued interpretations of the data from 1950-1970 are still there, but are almost certainly less worrying. Nonetheless, we shy away from comparing our results with those in the various compilations done 20-plus years ago (Paukert, 1973; Jain, 1975). The long-term comparison is certainly of interest. However, to do so convincingly would be a major under-taking. Here we confine ourselves solely to the short-term comparison over the 1980s, for which data are of higher quality, and we can at least iron out some of the comparability problems by screening potential data sources, and estimating consistently from the available source-data at the country level.

Quite possibly the best way to avoid the pitfalls arising from differences in survey methods, and errors in price data, is to aggregate across countries. Thus we focus mainly on our aggregate results here. However, we will risk making a limited regional disaggregation of our results, and we do present our estimates for individual countries in an Appendix, with relevant details on the differences between the surveys we have used. This will help readers form their own judgements about the comparability problems, and (if deemed desirable) to further screen results for some countries in forming regional or global aggregates.

In the following section we review the methodological issues, and the strengths and drawbacks of the approach we have adopted. Section 3 presents our new estimates of the cumulative distribution of consumption around 1985-90. Our conclusions are found in section 4.

2 Methodological issues

International comparisons of poverty statistics are plagued with both conceptual and practical problems. There are comparability problems across countries in the underlying household surveys, though these problems are becoming less worrying over time, as survey methodologies are both improving and becoming more standardized, particularly under the auspices of the development agencies.² All of the primary data sets used here are nationally representative household surveys and use the same living standards indicator - either expenditure or income per person - over time. For the income-based surveys, we re-scale the mean according to national-accounts data on the average propensity to consume. In cases where we know of a serious comparability problem between two surveys for the same country, we have deleted one. In all cases we have estimated poverty incidence from the primary data source (tabulations or household level data), rather than relying on existing estimates. We end up with a data set covering 40 countries between 1981 and 1991, 18 of which have observations for two points in time within this period. The data set is considerably expanded over the 22 country data set used in Ravallion et al. (1991), though otherwise the methodology is consistent.³ This section gives details on the methods we have used in compiling and analyzing these data.

2.1 *International comparisons of poverty*

Comparisons of "absolute poverty" should ideally use a poverty line which is fixed in terms of the living-standards indicator being used.⁴ It is not clear what meaning can be attached to absolute-poverty comparisons across countries in which the real value of the poverty line varies widely. Yet that is almost certainly the case in the poverty statistics reported in standard sources, including the various issues of Social Indicators of Development (for example, World Bank, 1992a), the Human Development Report (for example, UNDP, 1991), and the compendium of estimates from diverse secondary sources by Tabatabai and Fouad (1993) (for the ILO). The potential anomalies are plain. We give two examples: i) Tyler et al. (1993) quote and compare estimates from existing sources indicating far higher poverty incidence in Brazil than India, although at a constant real poverty line the reverse is almost certainly true [Datt and Ravallion (1992)]. ii) If one were to rely on the official poverty estimates for (say) the U.S.A. and Indonesia one would conclude that the proportion who are poor around 1990 is about the same, namely 15% in each. But it is plainly the case that at any given real poverty line - constant in terms of the goods and services that it allows one to command - the proportion who are poor is higher in Indonesia.

Confining attention to developing countries, it might be argued that an adequate degree of comparability is assured by the fact that local poverty lines are (typically) anchored to a similar nutritional cut-off point; a food-energy intake around 2100 calories per person per day is common. However, the common methodologies used to map the caloric cut-off point into the consumption or income space do not assure that the resulting poverty lines are comparable in terms of command over (say) basic consumption needs (Ravallion, 1993a; Ravallion and Bidani, 1993).⁵ Even amongst developing countries, there is substantial variation in the real value of the

poverty lines used, with a marked tendency for countries with higher average incomes to have higher poverty lines (Ravallion, et al., 1991).

There is thus a compelling case for ignoring the poverty lines of individual countries when attempting to make "global" comparisons and aggregations. But then whose poverty line should be used in making comparisons? Poverty lines appropriate to the poorest countries, such as India, have been a popular choice in past work [Ahluwalia (1974), Ahluwalia, Carter and Chenery (1979), Kakwani (1980a), World Bank (1980, 1990), Ravallion et al. (1991)]. The slightly higher poverty line of "\$US1 per day" at 1985 purchasing power parity used by World Bank (1990) and discussed further in Ravallion et al. (1991) is just as defensible. The more important issue is achieving comparability across countries. Here there is a compelling case for using the same level of real consumption to define the poverty line. But how can that be assured?

The International Comparisons Project (ICP) of the U.N. has helped here, by facilitating the construction of the implicit exchange rates which assure purchasing power parity (PPP) exchange rates [Kravis et al. (1975), Summers and Heston (1988, 1991)].⁶ Though designed for comparing national accounts, the PPP rates also appear to be the best available method of setting internationally comparable poverty lines, and they have been used for this purpose by Ahluwalia, Carter and Chenery (1979), Kakwani (1980a), World Bank (1980, 1990), and Ravallion et al. (1991). International comparisons of absolute poverty are known to be sensitive to errors in the PPP rates used for converting different national currency consumption values into a common denomination; for example, Ravallion et al. (1991) find that the aggregate estimates of poverty are particularly sensitive to errors in the PPP for China. Nonetheless, the PPP rates appear to be a far better option than official exchange rates for international currency conversions when

aiming to compare standards of living. We shall continue using the PPI rates in this study, notably the latest estimates for consumption reported in Summers and Heston (1991).

2.2 *Poverty measures*

There is now a large literature on poverty measures. Rather than discuss all of the measures that have been used or proposed, we shall follow Atkinson (1987) in focusing on a broad class of additively separable measures, encompassing many of those found in the literature.

As we have seen, there is uncertainty about a number of aspects of the poverty comparisons we shall be making below. There are likely to be errors in our living standards data, unknown differences in needs between households at similar consumption levels, uncertainty and arbitrariness about both the poverty line and precise poverty measure. Given these problems it is important to ask: how robust are our poverty comparisons? Would they alter if we made alternative assumptions? A recent strand of research in poverty analysis has shown how we can answer such questions, drawing on and developing results from the theory of stochastic dominance. We shall give an elementary exposition of the approach, as required for understanding the later results.⁷

Imagine the curve which is traced out as one plots the proportion of the population (p) (on the vertical axis) consuming less than any given level (z) (on the horizontal); this is simply the cumulative distribution function $p=F(z)$, which can be thought of as the "poverty incidence curve" (PIC) - each point on the curve gives the "head-count index" of poverty, i.e., the proportion of the population consuming less than the particular poverty line on the horizontal axis. If one calculates the area under this curve up to each point then one traces out the "poverty deficit curve", $D(z)$. If one again calculates the area under the poverty deficit curve at each point

then one obtains a new curve, which can be termed the "poverty severity curve" $S(z)$ (Ravallion, 1993a).

Suppose we do not know the poverty line z , but we can be sure that it does not exceed z^{\max} . Nor do we know the poverty measure, but we can identify some desirable properties for such a measure, including the aforementioned additivity property.⁸ Then it can be shown that poverty cannot have increased between two dates if the PIC for the latter date lies nowhere above that for the former date, up to z^{\max} [Atkinson (1987)]. This is called first-order dominance. If the curves cross each other (and they may intersect more than once), then the ranking is ambiguous; some poverty lines and some poverty measures will rank the distributions differently to others. We need more information. One can restrict the range of poverty lines, or one can impose more structure on the poverty measure. If one restricts attention to additive measures which are strictly decreasing in incomes of the poor (unlike the head-count index) then we can use a second-order dominance condition. Then poverty cannot have risen if $D(z)$ is nowhere higher for the second date than the first at all points up to the maximum poverty line, and at least somewhere higher. When this test is inconclusive, one can further restrict the range of admissible poverty measures. If one is content to rely solely on "distribution-sensitive measures" which increase when inequality increases amongst the poor then a third-order dominance condition can be tested; poverty cannot have increased if $S(z)$ is nowhere higher at the second date. These tests are "nested" in that first-order dominance implies second-order dominance, which implies third-order dominance.

Dominance tests can also allow robust poverty comparisons in the presence of certain types of measurement error in the underlying distributions. Suppose, in particular, that the measurement errors in the PPPs generate random errors in the poverty lines in local currencies,

and that those errors are identically distributed in each of the countries or regions being compared. Then it can be readily shown that first-order dominance over the range of observed consumption implies an unambiguous poverty ordering in terms of the true poverty lines, whatever the underlying distribution of the measurement errors (Ravallion, 1993b).

2.3 *Estimation from survey data*

We will take household consumption expenditure per person to be the preferred indicator of individual living standard.⁹ The per-capita normalization implicitly makes the quite special assumption that each person (whatever their age or gender, or how many other people live in the household) should have the same weight. There are a number of arguments that can be made for and against that assumption (Ravallion, 1993a). But, given the nature of data available to us for most of the countries, we have no choice.

Our methodology of constructing the poverty incidence curves is based on parameterized Lorenz curves. We use the fact that, for any Lorenz curve $L(p)$ giving the share of total consumption by the poorest p proportion of the population, the slope of the Lorenz curve is $L'(p) = x/\mu$ which is simply the inverse of the PIC, $p = F(x)$ (Gastwirth, 1971). Two different specifications of the Lorenz curve are tried, viz. the general quadratic (GQ) Lorenz curve (Villasenor and Arnold, 1984, 1989) and the Beta Lorenz curve (Kakwani, 1980b).¹⁰ The functional forms for these Lorenz curves are discussed in Datt and Ravallion (1992) where the formulae for various poverty measures for both specifications of the Lorenz curve are also derived. The choice between the two specifications of the Lorenz curve is governed by two criteria. First, we check if the estimated parameters satisfy the conditions for a valid Lorenz curve.¹¹ If both specifications are found to be valid, choice between them is made using a

restricted goodness-of-fit criterion; we select the specification with the lower sum of squared errors up to that point on the PIC.¹²

While the estimation of the Lorenz parameters is relatively straightforward, we have had to make further assumptions in the construction of poverty measures, owing to the diverse nature of the distributional data available to us. Here we have followed the practice outlined in Ravallion et al. (1991). The assumptions have to do with three dimensions of data diversity: (i) the standard of living indicator used in the survey, (ii) the unit of counting and the ranking variable, and (iii) the date of the survey.

(i) *The standard of living indicator.* Not all household surveys use consumption expenditure as the living standard indicator. For 29 of the 58 surveys, the available distributional data pertain to income rather than consumption expenditure. Poverty assessments for these countries are thus based on an income Lorenz curve and an estimate of mean consumption; there seems no satisfactory way of adjusting the data for differences between income and consumption distributions. The estimate of mean consumption is constructed by multiplying the mean income from the survey by the ratio of private consumption to the GNP for the year of the survey.¹³ The latter are obtained from the national accounts estimates compiled in World Bank (1992b).

(ii) *The unit for counting and the ranking variable.* National surveys also differ in using the household or the individual as their unit for counting, and in terms of the variable they use in ranking (per person or per household). In all but three of the 58 surveys we have used, the counting unit is persons (so that we have percentages of persons in each expenditure or income group) and the ranking variable (used in defining those groups) is income or expenditure per person. In the three odd cases, we have no choice but to use the household Lorenz curve (though adjusted for differences in household size in all except one case), but combined with an

estimate of mean consumption per capita (obtained by dividing the mean household consumption reported in the survey by the average household size).

(iii) *The date of the survey and price adjustment.* The dates of the national surveys span the period 1981 to 1991. Even for the countries where we have surveys at more than one date, the survey dates rarely coincide with the years 1985 and 1990, on which we decided to anchor our poverty estimates. In all estimates for these two dates, we have assumed the Lorenz curve at the nearest survey date to be our best estimate of the Lorenz curve for 1985 or 1990. We thus make adjustments only to the mean consumption per capita for changes between the survey date and 1985, and similarly for 1990. The adjustment involves multiplying the mean per capita consumption as reported in the survey by the ratio of private consumption per capita in 1985 (or 1990) to that at the survey date, as obtained from the national accounts (World Bank, 1992b). All nominal values of mean per capita consumption are finally expressed in 1985 PPP-adjusted U.S. dollars. This conversion is based on Summers and Heston (1991) PPPs for private consumption in 1985,¹⁴ and data on country-specific consumer price indices from the International Financial Statistics compiled by the IMF (1991). No attempt is made to adjust for cost-of-living differences within countries; there are few cases where the data (on both distributions and prices) are adequate for that purpose.¹⁵

2.4 *Criteria for inclusion in the data set*

We only cover low- and middle-income countries (as classified by World Bank, 1992c). We have not included all available distributional data sets for the 1980s; several considerations with regard to quality and comparability have guided the selection. An important consideration has been whether the household survey had national-level coverage. Thus, a number of surveys,

particularly in Africa (Angola, Burundi, Chad, Mauritania, Zaire) and Latin America (Argentina, Ecuador, El Salvador, Paraguay, Uruguay), were not included in this study because of their limited (sub-national) coverage. (In Latin America alone one could add six or more countries to the data set if one were willing to use surveys for urban areas only.) Other considerations related to the quality of the data available. For example, survey data are available for Nigeria 1985-86, and this would have greatly increased our population coverage in Sub-Saharan Africa. However, that data had to be excluded because of the tabulation plan; the published tables (the only form in which these data were available to us) reported the size distribution of household income over only five income groups with the first group accounting for 52 per cent of all households; nor do the tables provide mean household incomes within the five income groups, and furthermore, only cash income is used in ranking.¹⁶ Given the nature of the data, estimation of the distribution function for Nigeria would have been subject to an unacceptably high margin of error in our view. There were also some cases in which a second survey was available, but was not used because of a significant change in survey methodology, or the tabulation plan; for example, a second survey was available for Pakistan, but comparable tabulations were not available.

Such screening choices are matters of both knowledge and judgement. Certainly some of those surveys we have included could reasonably be questioned. One which we were worried about including was the 1984/85 survey for Morocco; though this was similar in most respects to the 1990/91 survey (they were done by the same statistics office, and distributions of consumption per person are available for both) their sample sizes were quite different, and there were also some differences in the questionnaire and interviewing. This was the most marginal case in the set of 18. But amongst the 40 countries there are even larger differences in methodology, such as between income and consumption as the indicator of living standards.

The countries of Eastern/Central Europe and the ex-USSR pose a number of further problems. While there is a good deal of distributional data now available, PPP rates are either unavailable or unreliable. We include data for Eastern Europe when the PPP rates are available from Summers and Heston (1991), though we present estimates with and without this region.

Since we provide detail on the surveys we have used in an Appendix, and our estimates for each country, interested readers may further screen the set of countries included in the aggregate results, to test the robustness of our conclusions.

Table 1 summarizes the countries in the data set by region. We have compiled all the appropriate survey data sets for the 1980s that we could find, mostly from governmental statistical agencies and World Bank data files, subject to the quality criteria described above. Overall the 40 countries represent 80% of the population of low- and middle-income countries in 1990, while the 18 countries represent 67%. However, there is marked regional variation in the coverage, ranging from 24% in Middle-East and North Africa to 96% in South Asia.

The following countries are included. In East Asia: China (1985 and 1990), Indonesia (1984 and 1990), Malaysia (1984 and 1989), Philippines (1985 and 1988), and Thailand (1988). In South Asia: Bangladesh (1985/86 and 1988/89), India (1983 and 1989/90), Nepal (1984/85), Pakistan (1991), Sri Lanka (1985). In Sub-Saharan Africa: Botswana (1985/86), Cote d'Ivoire (1985, 1988), Ethiopia (1981/82), Ghana (1987/88 and 1988/89), Kenya (1981/83), Lesotho (1986/87), Rwanda (1983/85), Tanzania (1991), Uganda (1989/90), Zimbabwe (1990/91). In North Africa and the Middle-East: Algeria (1988), Jordan (1991), Morocco (1984/85 and 1990/91), Tunisia (1985 and 1990). In Central/Eastern Europe: Hungary (1989), Poland (1985, 1989), Yugoslavia (1985, 1989). In Latin America: Bolivia (1990), Brazil (1985, 1989), Chile (1989), Colombia (1988), Costa Rica (1981, 1989), Dominican Republic (1989), Guatemala

(1986/87 and 1989), Honduras (1989), Jamaica (1988, 1990), Mexico (1984), Panama (1989), Peru (1985/86), Venezuela (1987, 1989).

3 The results

Table 2 gives our estimates of five points on the aggregate PIC (the cumulative percentage of the population of the developing world as a whole consuming less than various amounts) including the "\$1 per day" poverty line described in section 2. Four sets of estimates are given. The first relies solely on the sub-set of 18 countries for which we have observations at two points in time, and are based on the survey year. The second is obtained by extrapolating to either 1985 or 1990, as described in section 2, though still relying solely on the 18 country sub-set. The third extends the method of the second to all 40 countries (including the 22 cases in which the same survey data are used to estimate the Lorenz curve at both 1985 and 1990). The fourth is the same as the third except that it excludes the three countries in Eastern Europe (as noted above).

The four sets of estimates agree closely, and all indicate first-order dominance, implying an unambiguous fall in poverty, no matter which poverty line or poverty measure is used (section 2.2). However, the quantitative differences over time are very small. On the basis of the results in Table 2, we conclude that there was a negligible change in the aggregate PIC during the latter half of the 1980s. With negligible change in poverty incidence, the numbers of poor have thus been growing at close to the rate of population growth, about 2% per year.

However, the aggregates hide some diversity between regions. Table 3 gives a breakdown of the results for the four regions Sub-Saharan Africa, South and East Asia, and Latin America; Figures 1 to 4 plot the cumulative distributions for the four regions in both dates, each

of which is compared to the aggregate PIC. Poverty fell in both East and South Asia, and there is first-order dominance, so the conclusion is robust to the choice of poverty line or measure. Poverty increased in both Latin America and Sub-Saharan Africa, though in the latter case the conclusion is only robust for all poverty measures if one restricts the poverty line to \$50 per month. The poverty deficit curves for this region show an increase in poverty for poverty lines up to a high level (above \$60 per month).

Despite these differences in progress in reducing poverty, the poverty ranking of regions is generally stable; poverty is highest in South Asia, followed by Sub-Saharan Africa, Latin America and the Caribbean, East Asia, and Middle-East/North-Africa, in that order. The one exception to this ranking is for 1990, when there is a reversal between Sub-Saharan Africa and South Asia at the lower poverty line, though the difference is small.

The Appendix gives the detailed results by country. In making comparisons over time, we find that PICs do not intersect up to a poverty lines over \$60 per month in 14 out of the 18 countries with observations at two points in time; for 10 of these poverty decreased, while it increased in 4. Second-order dominance (an increase in poverty) holds for two of the remainder (up to about \$55 per month). Only in two cases is the poverty comparison ambiguous over time.

There are a number of surprises in the individual country estimates when compared with the more familiar estimates found in standard sources. Table 4 reproduces the estimates of the incidence of poverty for 1990 quoted in UNDP (1991) for the 20 countries which are also in our set of 40. We also give our estimate of $F(30)$ for 1990, from Table A4 in the Appendix. This poverty line gives a similar estimate of the mean head-count index for these 20 countries to UNDP (1991). Given the use of country-specific poverty lines which tend to be positively correlated with the mean, the considerably lower variance in estimates of the head-count index

revealed in Table 4 is to be expected. The more interesting question is how the two methods rank countries.

The two series of individual-country estimates are positively correlated; the overall rank correlation coefficient is 0.71. However, there are some marked discrepancies, for which Bangladesh is the most striking; while we estimate that 28% of Bangladesh's population in 1990 were consuming less than \$1 per day, the head-count index of poverty quoted in UNDP (1991) is 86%. Possibly this discrepancy is deceptive, for the UNDP figure is actually far higher than the Government of Bangladesh's own estimates, and also those of independent researchers, which yield estimates of the head-count index around 40% for the late 1980s using a local poverty line (see the survey by Hossain and Sen, 1991). If we drop this country then the rank correlation goes up to 0.74. Nonetheless, there is still a good deal of re-ranking.

In addition to the fact that we are attempting to use a consistent methodology across all countries, the use of purchasing power parity conversions is known to produce similar re-rankings in terms of national incomes (Stern, 1989; Mazumdar et al., 1992). Possibly one should not be too surprised at these discrepancies. Yet we would agree that some are surprising; we would suspect, for example, that many casual observers of the differences in living standards between Bangladesh and India would find it hard to accept that poverty is that much higher in India. Possibly there are errors in the PPP rates, or differences in survey methodologies, which could account for this finding. That speaks again for the need to be cautious about such cross-country comparisons. However, we can be more confident about the regional and global aggregates.

4 Conclusions

We would not want to present these results as definitive; indeed we think that there is considerable scope for improvement. The ongoing efforts of governments and agencies to enhance the quality and quantity of household-level surveys and price data for international comparisons will allow continued future improvements in this type of poverty monitoring. However, the estimates we have made do appear to be about the best one can do with the existing data. They suggest that the incidence of absolute poverty in the developing world as a whole has remained static during the latter half of the 1980s, with one-in-three persons consuming less than \$1 per day. With the cumulative distribution of consumption changing only negligibly, the numbers of poor - by any consumption standard for defining what "poor" means - has been growing at the same rate as the aggregate population of the developing world, about 2% per year. There is, however, some marked variation between regions and countries, with generally rising poverty incidence in both Latin America and Africa, and generally falling incidence in Asia. Poverty increased in about one-third of the countries.

Notes

1. The work of Paukert (1973), Adelman and Morris (1973), and Jain (1975) brought together data for a number of countries for the 1950s up to the early 1970s. These have been the main source of cross-country distributional data in subsequent research. [See, for example, Berry et al. (1983, 1989), Lecaillon et al., (1984), Grosh and Nafziger (1986), Fields (1989), Yotopoulos (1989), Sundrum (1990), Waldmann (1992) and Anand and Kanbur (1993)]. Estimates of the world distribution of income have typically assumed that relative inequalities within countries are unchanged over time when up-dating estimates, and used only growth rates in each country's mean income, as derived from national accounts (for example, Berry et al., 1983, 1989; Grosh and Nafziger, 1986; Yotopoulos, 1989). There have been compilations of independent estimates of poverty measures by country, such as in World Bank (1992a), UNDP (1991), and for the ILO by Tabatabai and Fouad (1993). However (as we shall argue below), the comparability of these estimates (both between countries and over time) is questionable. None of these sources appear then to offer a sound foundation for monitoring poverty.
2. Substantial efforts at improving data quality and country coverage have been made by the United Nations (under the Household Survey Capability Programme) and the World Bank (the Living Standards Measurement Study and the Social Dimensions of Adjustment in Sub-Saharan Africa Project). For a discussion of the comparability problems across household surveys see Deaton (1993).
3. The main difference in methodologies between this study and Ravallion et al. (1991) is that the latter study used distributional data for fewer countries (22, instead of our 40), and relied instead on econometric extrapolations for 64 countries. We have only used extrapolations over time when we do have at least one survey observation of the distribution. Nonetheless, our estimate of the percentage of the population consuming less than \$1 per day in 1985 accords closely with Ravallion et al. (1991); both are in the interval 33-34%. However, our use of the recent Summers and Heston (1991) revisions to the 1985 PPP rates has entailed some changes at the country level, particularly for India and China. The new estimates of the PPPs imply a large increase in the estimate of India's head-count index for \$1 per day and a sizable decrease for China. These two changes are offsetting.
4. For a review of alternative concepts of poverty found in the literature and policy discussions see Ravallion (1993a).
5. Ravallion and Bidani (1993) compare the regional profile of poverty within one country (Indonesia) obtained by the two most common methods used to set poverty lines, both anchored to the same nutritional cut-off point; the two poverty profiles are virtually un-correlated (the rank correlation coefficient across 35 regions in 1990 is 0.15).
6. The PPP rate for a country is given by the value of the mean outputs of that country evaluated at domestic prices relative to their value at the (output-weighted) mean international prices. The latter in turn depend on the PPP rates, and so a set of simultaneous equations are solved to obtain the PPP rates (Kravis et al., 1982). The main empirical problem is obtaining a consistent set of prices for goods and services for all countries.

7. On the use of dominance conditions in ranking distributions in terms of poverty see Atkinson (1987), and Foster and Shorrocks (1988). The following treatment draws on the exposition in Ravallion (1993).
8. More precisely, attention is restricted to poverty measures which are additively separable between the individual poverty measures, or can be written as a monotonic transformation of an additive measure. Atkinson (1987) characterizes the set of admissible poverty measures and gives other examples from the literature.
9. Ravallion (1993) surveys the arguments for and against this choice.
10. In our experience, we have found these two specifications of the Lorenz curve to track the distributional data extremely well; they easily out-perform many other functional forms discussed in the literature, particularly those in the two-parameter family.
11. A theoretically valid Lorenz curve $L = L(p)$, where L is the share of the bottom p percent of the population in aggregate consumption, should meet the following four conditions: $L(0)=0$, $L(1)=1$, $L'(0^+) \geq 0$, and $L''(p) \geq 0$ for $0 < p < 1$. See Datt (1992) for the parametric restrictions implied by these conditions.
12. See Chen et al (1992) for a user-friendly computer program POVCAL, for use on any PC with the DOS operating system, which implements these methods.
13. While this adjusts the mean, there is nothing one can do about the Lorenz curve. One would expect income to be more unequally distributed than consumption, though the impact on the estimated PIC is unclear. Ravallion et al. (1991) test for possible bias due to this adjustment, by including a dummy variable for whether the survey is one of incomes or consumptions in a regression of the poverty measure against a range of social indicators and national accounts data; the dummy variable did not have a significant coefficient.
14. Summers and Heston (1991) provide the PPPs for 1988 for most countries, and for an earlier year between 1985 and 1987 for some other countries where estimates for 1988 could not be constructed. The complete Penn World Table (Mark 5), which is available on computer disks from the authors, provides the full time series of PPP estimates for all countries. The PPPs we use are taken from this source. We decided to use PPPs for 1985 since this turns out to be the most recent year for which PPPs are available for all countries.
15. In some cases (including China, Indonesia, and most countries in South Asia), distributions are available which distinguish urban from rural areas. Some regional data are also readily available (including India and Indonesia). The more serious problem is making a consistent allowance for cost-of-living differences. Past estimates of poverty lines by region or sector are subject to the same criticism that we have made already about cross-country comparisons, namely that the methods used are unlikely to yield the same real poverty line across space (Ravallion, 1993a). One experiment for Indonesia suggested to us that these problems should not be taken lightly, and that a better approach may actually be to ignore spatial differences within countries (Ravallion and Bidani, 1993).

16. This could entail a sizable bias to the Lorenz curve since rural areas (which also tend to be poorer) tend to use cash less.

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Table 1: Number of countries included

Region	Number of countries	Percent of population represented*	Number of countries with two data sets	Percent of population represented*
East Asia	5	91.75	4	88.21
Eastern Europe	3	58.64	2	50.15
Latin America	13	83.04	6	50.08
Middle East & North Africa	4	23.92	2	12.94
South Asia	5	96.23	2	83.31
Sub-Saharan Africa	10	32.90	2	5.4
Total	40	79.54	18	66.60

* Percent of the population of all low- and middle-income countries in that region represented by the surveys.

Table 2: Aggregate poverty incidence curves for the developing world

Estimation method		Cumulative percent of population under each consumption level (\$/person/month, 1985 PPP)					Mean consumption (\$/person/month, 1985 PPP)
		\$21	\$30.42	\$40	\$50	\$60	
1. 18 countries, survey dates	year 1	18.53	34.02	47.29	58.30	66.59	61.84
	year 2	18.20	33.99	46.65	56.98	64.71	66.38
2. 18 countries, extrapolations to 1985/90	1985	18.37	33.95	47.30	58.36	66.67	61.53
	1990	17.82	33.83	46.80	57.33	65.18	65.40
3. 40 countries, extrapolations to 1985/90	1985	17.93	33.28	46.53	57.53	65.87	63.49
	1990	17.57	33.13	45.95	56.45	64.38	67.28
4. 37 countries (excl. E. Eur.), extrapolations to 1985/90	1985	18.34	33.98	47.40	58.44	66.70	62.85
	1990	17.87	33.63	46.52	57.00	64.85	66.95

Table 3: Poverty incidence curves by region

Region	Year	Cumulative percent of population under each consumption level (\$/person/month; 1985 PPP)					Mean consump- tion (\$/person/ month, 1985 PPP)
		\$21	\$30.42	\$40	\$50	\$60	
East Asia	1985	4.89	15.72	29.94	43.69	54.63	70.93
	1990	4.86	14.71	26.81	39.05	49.27	80.26
Latin America	1985	13.23	23.07	31.97	40.05	47.03	117.49
	1990	17.21	27.77	37.01	45.22	52.13	109.66
Middle East & North Africa	1985	1.33	4.49	10.55	18.89	27.95	118.50
	1990	0.54	2.52	7.01	13.32	20.45	138.41
South Asia	1985	37.01	61.10	75.31	84.10	89.49	33.37
	1990	33.64	59.00	74.59	84.04	89.47	35.12
Sub-Saharan Africa	1985	33.34	53.48	67.01	75.83	81.57	45.76
	1990	34.53	54.43	67.10	75.45	81.11	49.81

Note: Eastern Europe excluded.

Table 4: Alternative estimates of the head-count index of poverty for 1990

Country	Head-count index (%)	
	Our F(30) for 1990	UNDP (1991) for 1990
Bangladesh	27.81	85.99
Botswana	36.54	53.85
Cote d'Ivoire	20.17	29.17
Dominican Rep.	24.35	44.44
Ethiopia	69.13	61.18
Ghana	20.44	44.00
Guatemala	51.37	70.65
Honduras	62.33	37.25
India	69.44	48.06
Indonesia	21.72	37.71
Kenya	62.43	46.67
Lesotho	48.41	55.56
Malaysia	4.33	26.26
Morocco	2.49	37.05
Nepal	39.77	60.73
Pakistan	14.76	30.02
Panama	27.48	25.00
Philippines	28.42	58.01
Rwanda	76.41	86.11
Thailand	4.82	29.62
Mean	49.29	48.14
Standard deviation	24.75	13.64

Note: mean and standard deviation are population weighted.

Appendix: Details by Country

This Appendix gives the country-level estimates underlying the aggregate results reported in the paper. Table A1 gives details on the data for each country, and estimation methods. The estimated slopes of the Lorenz curves across selected intervals are then given in Table A2. Table A3 gives the estimates of selected points on the PIC by country at each survey date, while Table A4 gives the estimates obtained when we extrapolate to 1985 and 1990 using the closest available survey date. It should be noted that the estimates of the proportions of these countries' populations below a given poverty line need not accord closely (either absolutely or relatively) with the estimates in standard sources. The latter do not attempt to assure comparability of the poverty lines across countries in terms of their purchasing power, and differ in other respects related to the nature of the data and the estimations methods used (see sections 2 and 3 for further discussion).

The following abbreviations are used: EA = East Asia, EE = Eastern Europe, LA = Latin America and the Caribbean, SA = South Asia, MN = Middle East and North Africa, SS = Sub-Saharan Africa; I = income, E = expenditure; P = person, H = household; I/P = income per person, E/P = expenditure per person, E/H = expenditure per household, I/H = income per household; Beta = Beta specification, GQ = general quadratic specification.

Table A1: Country level details on the distributional data used

Region	Country	Survey year	Indicator	Counting variable	Ranking variable	Sample size	Lorenz model ^a
EA	China	85	I	P	I/P	90980	Beta
		90	I	P	I/P	102138	Beta, GQ
EA	Indonesia	84	E	P	E/P	50000	Beta
		90	E	P	E/P	46079	Beta, GQ
EA	Malaysia	84	I	P	I/P	12000	Beta
		89	I	P	I/P	12000	Beta
EA	Philippines	85	E	P	E/P	16971	GQ
		88	E	P	E/P	18922	GQ
EA	Thailand	88	E	P	I/P	11044	Beta
EE	Hungary	89	I	P	I/P	22000	Beta
EE	Poland	85	I	P	I/P	21177	Beta
		89	I	P	I/P	28285	Beta
EE	Yugoslavia	85	I	P	I/P	5853	GQ
		89	I	P	I/P	6230	GQ
LA	Bolivia	90	I	P	I/P	6347	Beta
LA	Brazil	85	I	P	I/P	50000+	GQ
		89	I	P	I/P	70777	GQ
LA	Chile	89	I	P	I/P	32456	Beta
LA	Colombia	88	I	P	I/P	23885	Beta
		91	I	P	I/P	21580	Beta
LA	Cost Rica	81	I	P	I/P	6604	GQ
		89	I	P	I/P	7637	GQ
LA	Dominican Rep.	89	I	P	I/P	799	Beta
LA	Guatemala	86/87	I	P	I/P	9660	Beta
		89	I	P	I/P	10934	GQ
LA	Honduras	89	I	P	I/P	8648	Beta
LA	Jamaica	88	E	P	E/P	1905	Beta
		90	E	P	E/P	1821	Beta
LA	Mexico	84	I	P	I/P	4963	GQ

Region	Country	Survey year	Indicator	Counting variable	Ranking variable	Sample size	Lorenz model*
LA	Panama	89	I	P	I/P	8593	GQ
LA	Peru	85/86	E	P	E/P	5000	Beta
LA	Venezuela	87	I	P	I/P	38000	Beta
		89	I	P	I/P	61385	Beta
MN	Algeria	88	E	P	E/P	10368	Beta
MN	Jordan	91	E	P	E/P	47719	Beta
MN	Morocco	84/85	E	P	E/P	14500	Beta
		90/91	E	P	E/P	3400	Beta
MN	Tunisia	85	E	P	E/P	7000	Beta
		90	E	P	E/P	7000	Beta
SA	Bangladesh	85/86	E	P	E/P	3800	Beta
		88/89	E	P	E/P	5675	GQ
SA	India	83	E	P	E/P	117896	Beta, GQ
		89/90	E	P	E/P	28744	Beta
SA	Nepal	84/85	I	P	I/P	3662	GQ
SA	Pakistan	91	E	P	E/P	4800	Beta
SA	Sri Lanka	85	I	P	I/P	11897	Beta
SS	Botswana	85/86	E	P	E/H	2077	GQ
SS	Cote d'Ivoire	85	E	P	E/P	1600	Beta
		88	E	P	E/P	1600	GQ
SS	Ethiopia	81/82	E	P	E/H	3082	Beta
SS	Ghana	87/88	E	P	E/P	14938	GQ
		88/89	E	P	E/P	14965	Beta
SS	Kenya	81/83	I	H	I/H		Beta, GQ
SS	Lesotho	86/87	I	P	I/P	7680	GQ
SS	Rwanda	83/85	E	P	E/P	567	GQ
SS	Tanzania	91	E	P	E/P	1200	GQ
SS	Uganda	89/90	E	P	E/P	4598	GQ
SS	Zimbabwe	90	E	P	E/P	13780	GQ

*z=\$30.42 (specification may differ by poverty line and between urban and rural areas).

Table A2: Consumption/income shares by country

	Country	Survey year	I/E	Lowest 10%	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%	Highest 10%
EA	China	85	I	3.33	7.67	11.76	16.51	23.35	40.71	24.46
		90	I	2.68	6.44	10.96	16.42	24.35	41.83	24.61
EA	Indonesia	84	E	3.47	7.98	11.90	15.97	21.62	42.53	27.71
		90	E	3.87	8.65	12.13	15.85	21.12	42.25	27.90
EA	Malaysia	84	I	1.58	4.02	7.75	12.55	20.26	55.42	39.27
		89	I	1.85	4.58	8.33	12.99	20.37	53.73	37.81
EA	Philippines	85	E	2.77	6.44	10.11	14.41	20.95	48.09	32.74
		88	E	2.83	6.50	10.06	14.43	21.20	47.81	32.0
EA	Thailand	88	E	2.69	6.12	9.37	13.53	20.28	50.70	35.3
EE	Hungary	89	I	4.84	10.87	14.75	17.98	21.97	34.43	20.8
EE	Poland	85	I	4.14	9.84	14.29	18.06	22.73	35.08	20.9
		89	I	3.84	9.22	13.82	17.90	22.98	36.06	21.6
EE	Yugoslavia	85	I	2.88	7.33	12.38	17.23	23.44	39.62	24.2
		89	I	1.92	5.27	10.66	16.20	23.66	44.21	27.3
LA	Bolivia	90	E	2.32	5.62	9.66	14.53	21.96	48.23	31.7
LA	Brazil	85	I	1.00	2.61	5.57	10.00	18.25	63.57	47.3
		89	I	0.70	2.10	4.90	8.90	16.80	67.50	51.3
LA	Chile	89	I	1.40	3.70	6.80	10.30	16.20	62.90	48.0
LA	Colombia	88	I	1.22	3.33	7.21	12.12	20.00	57.34	41.2
		91	I	1.34	3.61	7.59	12.58	20.44	55.78	39.4
LA	Costa Rica	81	I	1.00	3.30	8.40	14.10	22.80	51.40	33.0
		89	I	1.20	4.00	9.10	14.30	21.90	50.80	34.1
LA	Dominican	89	I	1.60	4.20	7.90	12.50	19.70	55.60	39.0
LA	Guatemala	86/87	I	0.90	2.70	6.30	10.70	18.20	62.00	46.0
		89	I	0.60	2.10	5.80	10.50	18.60	63.00	46.0
LA	Honduras	89	I	0.90	2.70	6.00	10.20	17.60	63.50	47.0
LA	Jamaica	88	E	2.14	5.41	9.78	14.49	21.19	49.13	33.0
		90	E	2.51	5.98	9.88	14.45	21.32	48.37	32.0
LA	Mexico	84	I	1.60	4.10	7.80	12.30	19.90	55.90	39.0
LA	Panama	89	I	0.50	2.00	6.30	11.60	20.30	59.80	42.10

	Country	Survey year	I/E	Lowest 10%	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%	Highest 10%
LA	Peru	85/86	E	1.80	4.87	9.18	13.65	20.95	51.36	35.36
LA	Venezuela	87	I	1.70	4.73	9.22	13.95	21.49	50.61	34.21
		89	I	1.70	4.80	9.50	14.40	21.90	49.50	33.20
MN	Algeria	88	E	2.76	6.86	10.97	14.94	20.74	46.49	31.74
MN	Jordan	91	E	2.75	6.47	10.29	14.61	20.94	47.69	32.56
MN	Morocco	84/85	E	2.66	6.58	11.07	15.31	20.89	46.15	31.84
		90/91	E	2.81	6.57	10.45	14.97	21.71	46.30	30.49
MN	Tunisia	85	E	2.26	5.54	9.63	14.24	21.02	49.57	34.08
		90	E	2.28	5.86	10.41	15.27	22.13	46.33	30.69
SA	Bangladesh	85/86	E	4.47	10.04	13.82	17.25	21.65	37.24	23.41
		88/89	E	4.16	9.45	13.36	16.96	21.63	38.60	24.58
SA	India	83	E	3.69	8.47	12.47	16.39	21.63	41.04	26.56
		89/90	E	3.79	8.75	12.46	16.15	21.34	41.30	27.08
SA	Nepal	84/85	I	4.04	9.11	12.89	16.68	21.82	39.50	25.00
SA	Pakistan	91	E	3.43	8.40	12.87	16.87	22.16	39.70	25.21
SA	Sri Lanka	85	I	1.99	4.86	8.40	12.38	18.15	56.21	43.01
SS	Botswana	85/86	E	0.37	1.42	4.59	9.37	18.24	66.38	49.61
SS	Cote d'Ivoire	85	E	1.96	5.14	9.53	13.79	21.01	50.53	34.60
		88	E	3.01	7.28	11.87	16.34	22.34	42.17	26.88
SS	Ethiopia	81/82	E	3.68	8.56	12.67	16.36	21.10	41.31	27.52
SS	Ghana	87/88	E	2.81	6.94	11.64	16.12	22.07	43.23	28.09
		88/89	E	2.89	6.97	11.34	15.76	21.79	44.14	28.99
SS	Kenya	81/83	I	0.96	2.74	5.37	11.11	18.86	60.92	45.37
SS	Lesotho	86/87	I	2.07	4.52	6.53	10.04	17.64	61.27	45.03
SS	Rwanda	83/85	E	4.41	9.70	13.09	16.65	21.64	38.92	24.58
SS	Tanzania	91	E	0.86	2.44	5.73	10.43	18.70	62.70	46.45
SS	Uganda	89/90	E	3.80	8.52	12.09	15.97	21.49	41.93	27.20
SS	Zimbabwe	90	E	1.75	3.98	6.29	10.01	17.38	62.34	46.94

Note: The table gives the share of total household consumption or income accruing to persons in each group, ranked by per capita household consumption or income. The Lorenz curve is obtained by forming cumulative totals.

Table A3: Estimated points on the poverty incidence curves at survey dates

	Country	Year	Percent of population consuming less than the following amount (\$/person/month; 1985 PPP):					Mean (\$/pers./month)	Gini index (%)
			\$21	\$30.42	\$40	\$50	\$60		
EA	China	85	2.61	11.11	24.57	38.53	50.07	74.02	32.96
		90	4.70	13.51	24.34	35.94	46.04	81.69	35.53
EA	Indonesia	84	15.78	38.74	58.45	72.54	80.94	44.75	34.15
		90	5.41	21.72	42.17	59.65	71.36	56.14	33.18
EA	Malaysia	84	4.55	12.36	20.09	27.67	34.67	138.01	50.52
		89	0.94	6.37	13.32	20.66	27.47	154.07	48.35
EA	Philippines	85	17.17	34.75	50.52	63.18	72.37	55.29	41.04
		88	12.29	29.65	44.84	57.47	67.06	61.05	40.68
EA	Thailand	88	0.39	10.42	21.74	33.22	43.21	100.87	43.81
EE	Hungary	89	0.13	0.14	0.20	0.46	1.09	158.69	23.34
EE	Poland	85	0.64	2.74	9.18	20.75	34.43	79.49	25.28
		89	0.72	3.18	9.86	20.57	32.70	83.61	26.93
EE	Yugoslavia	85	3.60	12.13	20.93	31.67	43.18	76.12	32.40
		89	10.70	19.81	29.46	39.44	48.81	76.08	38.72
LA	Bolivia	90	6.68	17.81	28.35	38.38	48.10	86.19	42.04
LA	Brazil	85	16.42	26.69	35.46	43.14	49.61	122.90	59.54
		89	20.62	31.09	39.71	47.07	53.14	124.47	63.42
LA	Chile	89	6.07	15.62	25.71	35.36	43.81	132.53	57.88
LA	Colombia	88	4.55	9.09	13.90	18.85	23.65	205.22	53.11
		91	2.88	6.60	10.80	15.27	19.68	222.75	51.32
LA	Costa Rica	81	22.66	33.90	44.28	53.69	61.60	65.35	47.49
		89	11.04	18.77	26.80	35.09	42.99	97.37	46.07
LA	Dominican Rep.	89	11.21	22.32	32.50	42.07	50.37	95.69	50.46
LA	Guatemala	86/87	45.43	59.95	70.28	77.75	82.92	43.99	58.26
		89	38.75	51.55	61.41	69.12	74.92	55.99	59.60
LA	Honduras	89	46.22	60.46	70.52	77.78	82.83	44.95	59.49
LA	Jamaica	88	2.27	6.51	12.83	20.31	27.91	128.37	43.16
		90	0.03	1.86	8.49	15.42	22.71	142.63	41.78
LA	Mexico	84	11.42	22.88	33.25	42.65	50.67	96.55	50.71
LA	Panama	89	19.25	27.43	35.00	42.09	48.38	109.49	56.57
LA	Peru	85/86	11.89	23.91	35.51	46.21	55.72	78.14	45.72

	Country	Year	Percent of population consuming less than the following amount (\$/person/month;1985 PPP):					Mean (\$/pers./month)	Gini index (%)
			\$21	\$30.42	\$40	\$50	\$60		
LA	Venezuela	87	2.20	6.60	12.31	18.62	24.89	150.60	45.17
		89	10.36	20.49	30.75	40.68	49.74	83.64	44.08
MN	Algeria	88	0.50	1.47	3.93	8.68	15.21	144.83	38.73
MN	Jordan	91	5.70	18.25	31.88	44.67	55.46	74.87	40.66
MN	Morocco	84/85	2.25	7.11	15.88	27.04	38.25	95.42	39.19
		90/91	0.18	1.79	7.12	14.81	22.93	131.20	39.20
MN	Tunisia	85	1.02	4.63	10.86	18.34	25.89	136.39	43.43
		90	0.79	2.89	7.02	12.66	18.84	149.98	40.24
SA	Bangladesh	85/86	2.20	17.00	38.40	59.57	74.57	52.52	26.92
		88/89	7.80	28.49	51.63	70.30	81.64	46.42	28.85
SA	India	83	46.79	73.48	86.12	92.09	95.06	26.83	32.20
		89/90	43.29	70.92	84.82	91.62	94.82	28.38	32.27
SA	Nepal	84/85	17.53	44.28	65.89	79.34	86.76	39.52	30.06
SA	Pakistan	91	2.91	11.41	25.56	41.41	55.58	66.42	31.15
SA	Sri Lanka	85	26.16	46.56	61.94	72.76	79.88	53.13	51.01
SS	Botswana	85/86	42.62	53.75	62.48	69.17	74.26	58.09	63.44
SS	Cote d'Ivoire	85	5.37	14.28	24.10	33.89	43.01	98.67	44.63
		88	4.88	15.65	28.01	41.28	53.55	69.91	34.55
SS	Ethiopia	81/82	9.13	31.63	54.20	70.87	81.24	47.35	32.42
SS	Ghana	87/88	4.66	15.30	26.87	39.54	51.55	72.96	35.90
		88/89	4.47	15.11	28.30	41.53	53.07	72.93	36.74
SS	Kenya	81/83	48.65	62.97	72.72	79.57	84.26	40.26	57.25
SS	Lesotho	86/87	35.46	52.30	62.80	70.14	75.34	58.22	54.88
SS	Rwanda	83/85	26.44	57.49	76.74	86.82	91.89	33.50	28.90
SS	Tanzania	91	30.48	42.60	52.34	60.34	66.65	72.80	59.01
SS	Uganda	89/90	46.94	72.32	84.93	91.17	94.36	27.51	33.00
SS	Zimbabwe	90	23.28	39.71	51.37	60.18	66.73	78.30	56.83

Table A4: Estimated points on poverty incidence curves extrapolated to 1985 and 1990

Country	year	Percent of population consuming less than the following amounts (\$/person/month; 1985 PPP):					Mean (\$/pers./month)	Gini index (%)
		\$21	\$30.42	\$40	\$50	\$60		
EA China	85	2.61	11.11	24.57	38.53	50.07	74.02	32.96
	90	4.70	13.51	24.34	35.94	46.04	81.69	35.53
EA Indonesia	85	16.19	39.33	59.02	72.97	81.26	44.38	34.15
	90	5.41	21.72	42.17	59.65	71.36	56.14	33.18
EA Malaysia	85	4.77	12.69	20.49	28.13	35.19	136.26	50.52
	90	0.40	4.33	10.43	17.02	23.48	170.94	48.35
EA Philippines	85	17.17	34.75	50.52	63.18	72.37	55.29	41.04
	90	11.35	28.42	43.49	56.17	65.89	62.50	40.68
EA Thailand	85	2.71	15.62	28.34	40.36	50.45	88.50	43.81
	90	0.57	4.82	14.75	24.67	34.21	118.83	43.81
EE Hungary	85	0.12	0.16	0.24	0.58	1.43	150.85	23.34
	90	0.12	0.16	0.24	0.57	1.41	151.37	23.34
EE Poland	85	0.64	2.74	9.18	20.75	34.43	79.49	25.28
	90	1.95	9.27	22.65	38.41	53.14	64.62	26.93
EE Yugoslavia	85	3.60	12.13	20.93	31.67	43.18	76.12	32.40
	90	10.36	19.28	28.75	38.59	47.88	77.43	38.72
LA Bolivia	85	2.04	10.70	19.69	28.43	36.91	107.55	42.04
	90	6.68	17.81	28.35	38.83	48.10	86.19	42.04
LA Brazil	85	16.42	26.69	35.46	43.14	49.61	122.90	59.54
	90	24.31	35.34	44.21	51.64	57.65	108.52	63.42
LA Chile	85	10.58	22.78	34.32	44.64	53.22	108.50	57.88
	90	6.24	15.91	26.07	35.75	44.22	131.37	57.88
LA Colombia	85	5.80	11.05	16.45	21.95	27.26	181.91	53.11
	90	3.03	6.87	11.17	15.73	20.23	218.19	51.32
LA Costa Rica	85	23.38	34.87	45.41	54.89	62.78	63.57	47.49
	90	10.65	18.19	26.03	34.15	41.94	99.65	46.07
LA Dominican	85	12.67	24.28	34.80	44.58	52.94	90.50	50.46
	90	12.73	24.35	34.89	44.67	53.03	90.32	50.46
LA Guatemala	85	45.14	59.64	70.01	77.51	82.72	44.33	58.26
	90	38.58	51.37	61.23	68.95	74.76	56.27	59.60
LA Honduras	85	44.47	58.67	68.88	76.36	81.62	47.10	59.49
	90	48.09	62.33	72.21	79.23	84.05	42.79	59.49
LA Jamaica	85	1.59	4.58	9.51	15.79	22.47	145.83	43.16
	90	0.03	1.86	8.49	15.42	22.71	142.63	41.78
LA Mexico	85	10.84	22.13	32.38	41.71	49.72	98.65	50.71
	90	11.21	22.61	32.93	42.31	50.33	97.30	50.71
LA Panama	85	17.51	25.11	32.22	38.97	45.05	120.41	56.57
	90	19.29	27.48	35.06	42.15	48.45	109.27	56.57
LA Peru	85	6.35	15.23	24.75	34.18	42.77	100.57	45.72
	90	16.96	31.04	43.78	55.28	64.36	65.68	45.72

Country	year	Percent of population consuming less than the following amounts (\$/person/month; 1985 PPP):					Mean (\$/pers./month)	Gini index (%)
		\$21	\$30.42	\$40	\$50	\$60		
LA Venezuela	85	2.50	7.27	13.30	19.87	26.34	144.88	45.17
	90	10.45	20.62	30.91	40.87	49.94	83.31	44.08
MN Algeria	85	0.59	1.83	4.94	10.63	18.01	136.06	38.73
	90	0.43	1.16	3.01	6.78	12.32	155.67	38.73
MN Jordan	85	0.68	4.16	11.48	20.60	29.74	116.83	40.66
	90	3.09	12.60	24.54	36.52	47.17	86.12	40.66
MN Morocco	85	2.25	7.11	15.88	27.04	38.25	95.42	39.19
	90	0.24	2.49	8.78	17.14	25.70	124.07	39.20
MN Tunisia	85	1.02	4.63	10.86	18.34	25.89	136.39	43.43
	90	0.79	2.89	7.02	12.66	18.84	149.98	40.24
SA Bangladesh	85	2.15	16.77	38.09	59.26	74.33	52.7 ⁿ	26.92
	90	7.42	27.81	50.80	69.62	81.17	46.85	28.85
SA India	85	46.09	72.96	85.81	91.91	94.94	27.07	32.20
	90	41.45	69.44	83.91	91.08	94.50	29.04	32.27
SA Nepal	85	19.16	46.53	67.99	80.95	87.95	38.18	30.06
	90	14.29	39.77	61.80	76.45	84.80	41.77	30.06
SA Pakistan	85	4.21	15.68	32.19	49.03	63.04	60.20	31.15
	90	3.91	14.76	30.82	47.51	61.59	61.39	31.15
SA Sri Lanka	85	26.16	46.56	61.94	72.76	79.88	53.13	51.01
	90	26.11	46.51	61.89	72.71	79.85	53.18	51.01
SS Botswana	85	42.46	53.78	62.32	69.02	74.12	58.39	63.44
	90	27.25	36.54	44.39	51.22	56.92	104.20	63.44
SS Cote d'Ivoire	85	5.37	14.28	24.10	33.89	43.01	98.67	44.63
	90	7.55	20.17	34.33	48.73	61.10	62.52	34.55
SS Ethiopia	85	28.46	58.68	77.33	87.23	92.18	34.06	32.42
	90	39.78	69.13	84.15	91.26	94.64	29.57	32.42
SS Ghana	85	8.01	21.73	35.93	50.32	62.57	61.91	35.90
	90	6.99	20.44	35.27	49.20	60.97	64.62	36.74
SS Kenya	85	58.94	72.27	80.39	85.68	89.13	31.62	57.25
	90	48.44	62.43	71.92	78.59	83.22	42.17	57.25
SS Lesotho	85	33.19	50.39	61.17	68.73	74.10	60.94	54.88
	90	30.85	48.41	59.48	67.26	72.82	63.80	54.88
SS Rwanda	85	25.24	56.19	75.84	86.26	91.54	34.04	28.90
	90	48.86	76.41	88.29	93.57	96.10	25.63	28.90
SS Tanzania	85	42.23	55.45	65.11	72.39	77.73	50.79	59.01
	90	31.85	44.16	53.93	61.92	68.14	69.61	59.01
SS Uganda	85	48.58	69.99	82.50	89.36	93.07	27.33	33.00
	90	47.70	69.17	81.92	88.98	92.82	27.75	33.00
SS Zimbabwe	85	24.04	40.46	52.08	60.82	67.32	76.96	56.83
	90	23.28	39.71	51.37	60.18	66.73	78.30	56.83

Figure 1: Poverty Incidence Curves for South Asia 1985-1990

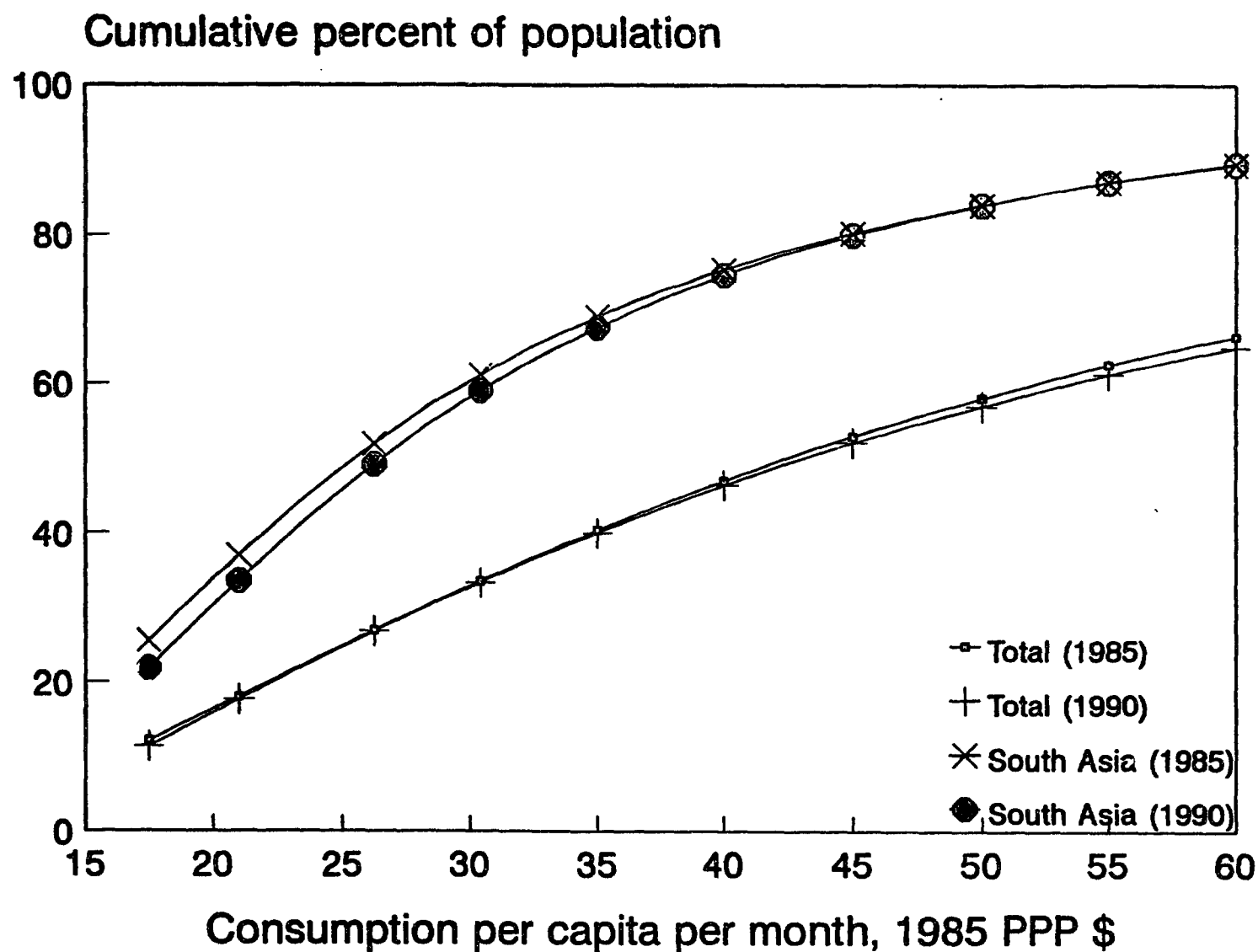


Figure 2: Poverty Incidence Curves for Sub-Saharan Africa 1

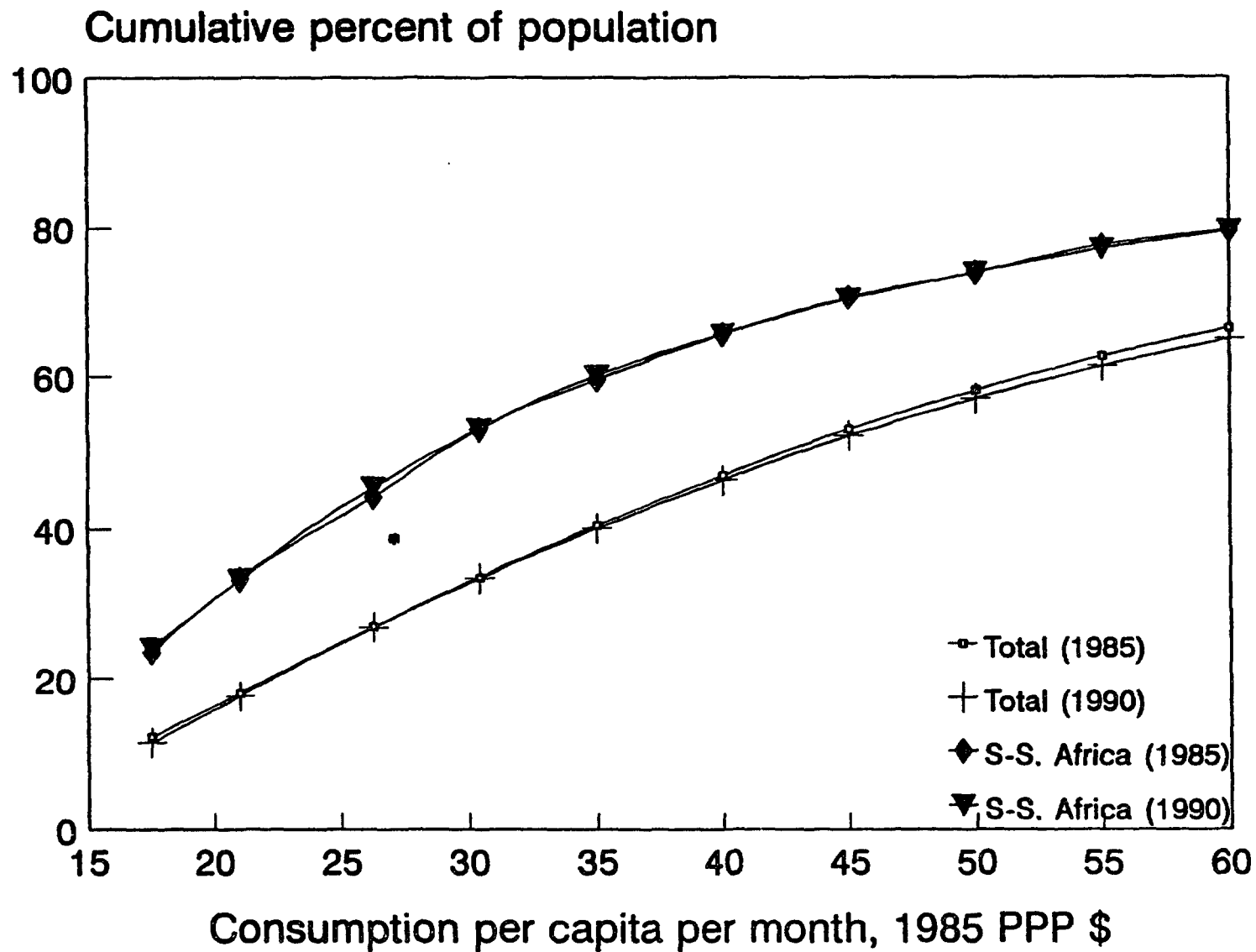


Figure 3: Poverty Incidence Curves for Latin America 1985-1990

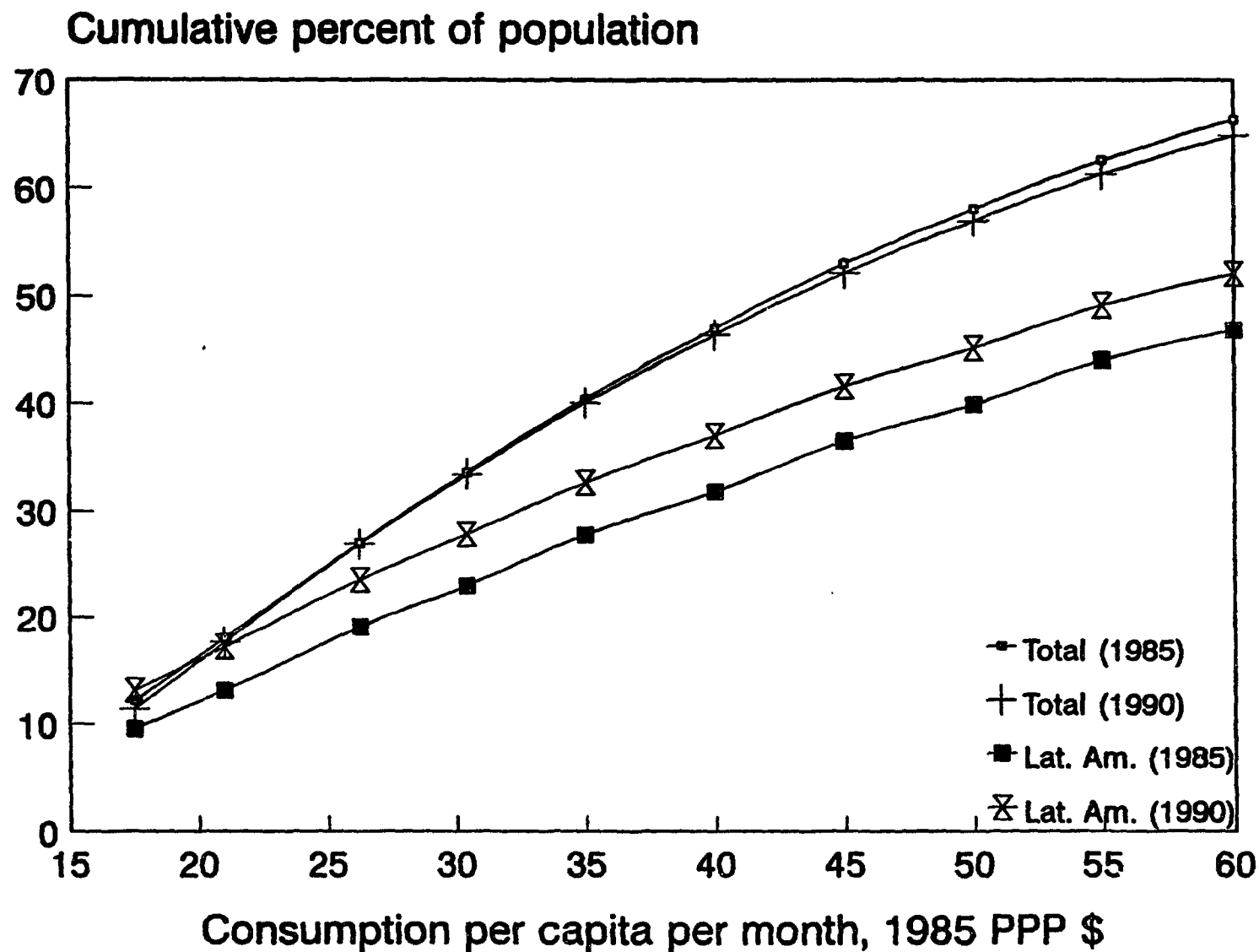
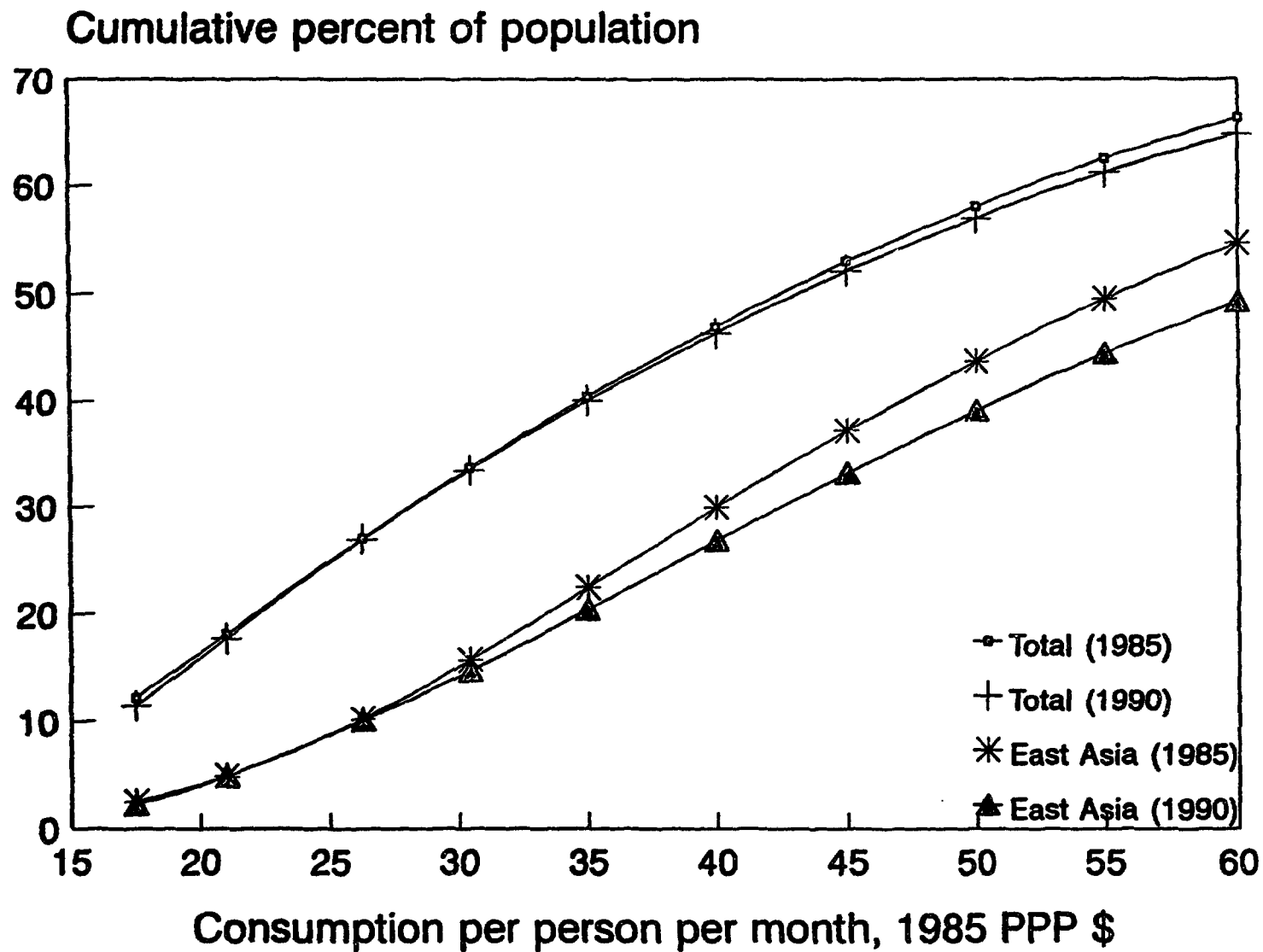


Figure 4: Poverty Incidence Curves for East Asia 1985-1990



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